

AMENDMENTS TO THE CLAIMS

What is claimed is

1. (Previously Presented) A process for preparing isocyanurate-containing polyisocyanates by at least partly trimerizing (cyclo)aliphatic diisocyanates, which comprises carrying out the reaction in the presence of at least one trimerization catalyst selected from the group consisting essentially of the ammonium salts, substituted by four hydrocarbon radicals, of α -hydroxy-carboxylates.

2. (Previously Presented) A process for preparing isocyanurate-containing polyisocyanates by at least partly trimerizing (cyclo)aliphatic diisocyanates, which comprises using, as the trimerization catalyst, at least one compound of the formula (I)



where

R^1 , R^2 , R^3 , R^4 , R^5 and R^6 may each independently be the same or different and are each a straight-chain or branched C_1 - to C_{20} -alkyl group, an optionally substituted C_5 - to C_{12} -cycloalkyl group, an optionally substituted C_7 - to C_{10} -aralkyl group, or an optionally substituted C_6 - C_{12} -aryl group, or

two or more of the R^1 to R^4 radicals together form a 4-, 5- or 6-membered alkylene chain or, together with a nitrogen atom, form a 5- or 6-membered ring which optionally contains an additional nitrogen or oxygen atom as a bridge member, or together form a

multimembered, polycyclic system, which optionally contains one or more additional nitrogen atoms, oxygen atoms or oxygen and nitrogen atoms as bridge members, and

R^5 and R^6 may additionally be hydrogen, or C_1 - C_{20} -alkyl or C_6 - to C_{12} -aryl, each optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups, or substituted by functional groups, aryl, alkyl, aryloxy, alkyloxy, halogen, heteroatoms and/or heterocycles.

3. (Previously Presented) The process according to claim 2, wherein the R^1 to R^4 radicals are each independently selected from the group consisting essentially of methyl, ethyl, propyl, isopropyl, n-butyl, tert-butyl, phenyl and benzyl.

4. (Previously Presented) The process according to claim 2, wherein the R^5 and R^6 radicals are each independently selected from the group consisting of hydrogen, methyl, ethyl, n-propyl, n-butyl, phenyl, 2-carboxyethyl and 2-hydroxyethyl.

5. (Previously Presented) The process according to claim 1, wherein the ammonium ion is selected from the group consisting essentially of tetraoctylammonium, tetramethylammonium, tetraethylammonium, tetra-n-butylammonium, trimethylbenzylammonium, triethylbenzylammonium, tri-n-butylbenzylammonium, trimethylethylammonium, tri-n-butylethylammonium, triethylmethylammonium, tri-n-butylmethylammonium, diisopropyldiethylammonium, diisopropylethylmethylammonium, diisopropylethylbenzylammonium, N,N-dimethylpiperidinium, N,N-dimethylmorpholinium, N,N-di-methylpiperazinium or N-methyldiazabicyclo[2.2.2]octane.

6. (Previously Presented) The process according to claim 1, wherein the α -hydroxycarboxylate ion is selected from the group consisting essentially of the anions of glycolic acid (hydroxyacetic acid), lactic acid, citric acid, 2-methyllactic acid (α -hydroxyisobutyric acid), 2-hydroxy-2-methylbutyric acid, 2-hydroxy-2-ethylbutyric acid, 2-hydroxy-3-methylbutyric acid, 2-hydroxycaproic acid, malic acid, tartaric acid, glucuronic acid, gluconic acid, citramalic acid, saccharic acid, ribonic acid, benzilic acid, quinic acid, mandelic acid, hexahydromandelic acid, 2-hydroxycaproic acid and 3-phenyllactic acid.

7. (Previously Presented) The process according to Claim 1, wherein the trimerization catalyst is deactivated after the desired degree of trimerization has been attained.

8. (Original) The process according to claim 7, wherein the trimerization catalyst is deactivated with dibutyl phosphate or di(2-ethylhexyl) phosphate.

9. (Previously Presented) The process according to Claim 1, wherein the diisocyanates have a total chlorine content of less than 100 ppm by weight.

10. (Currently Amended) The process according to Claim 1, wherein the diisocyanate is ~~diisocyanates are selected from the group consisting of hexamethylene 1,6-diisocyanate, and 1-isocyanato-3-isocyanato-methyl-3,5,5-trimethylcyclohexane.~~

11. (Canceled)

12. (Previously Presented) A polyurethane coating comprising a polyisocyanates prepared by the process of Claim 1.

13. (Previously Presented) A polyisocyanate component in one- and two-component polyurethane systems for high-grade, weather-resistant polyurethane coatings and high-solids coatings comprising a polyisocyanates prepared by the process of Claim 1.

14. (New) A process for preparing isocyanurate-containing polyisocyanates by at least partly trimerizing a halogen-free hexamethylene diisocyanate, which comprises carrying out the reaction in the presence of at least one trimerization catalyst selected from the group consisting essentially of the ammonium salts, substituted by four hydrocarbon radicals, of α -hydroxy-carboxylates.

15. (New) A process for preparing isocyanurate-containing polyisocyanates by at least partly trimerizing a halogen-free hexamethylene diisocyanate, which comprises using, as the trimerization catalyst, at least one compound of the formula (I)



where

$\text{R}^1, \text{R}^2, \text{R}^3, \text{R}^4, \text{R}^5$ and R^6 may each independently be the same or different and are each a straight-chain or branched C_1 - to C_{20} -alkyl group, an optionally substituted C_5 - to C_{12} -

cycloalkyl group, an optionally substituted C₇- to C₁₀-aralkyl group, or an optionally substituted C₆-C₁₂-aryl group, or

two or more of the R¹ to R⁴ radicals together form a 4-, 5- or 6-membered alkylene chain or, together with a nitrogen atom, form a 5- or 6-membered ring which optionally contains an additional nitrogen or oxygen atom as a bridge member, or together form a multimembered, polycyclic system, which optionally contains one or more additional nitrogen atoms, oxygen atoms or oxygen and nitrogen atoms as bridge members, and

R⁵ and R⁶ may additionally be hydrogen, or C₁-C₂₀-alkyl or C₆- to C₁₂-aryl, each optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups, or substituted by functional groups, aryl, alkyl, aryloxy, alkyloxy, halogen, heteroatoms and/or heterocycles.

16. (New) The process according to claim 15, wherein the R¹ to R⁴ radicals are each independently selected from the group consisting essentially of methyl, ethyl, propyl, isopropyl, n-butyl, tert-butyl, phenyl and benzyl.

17. (New) The process according to claim 15, wherein the R⁵ and R⁶ radicals are each independently selected from the group consisting of hydrogen, methyl, ethyl, n-propyl, n-butyl, phenyl, 2-carboxyethyl and 2-hydroxyethyl.

18. (New) The process according to claim 14, wherein the ammonium ion is selected from the group consisting essentially of tetraoctylammonium, tetramethylammonium, tetraethylammonium, tetra-n-butylammonium, trimethylbenzylammonium, triethylbenzylammonium, tri-n-butylbenzylammonium, trimethylethylammonium, tri-n-

butylethylammonium, triethylmethylammonium, tri-n-butylmethylammonium, diisopropyldiethylammonium, diisopropylethylmethylammonium, diisopropylethylbenzylammonium, N,N-dimethylpiperidinium, N,N-dimethylmorpholinium, N,N-dimethylpiperazinium or N-methyldiazabicyclo[2.2.2]octane.

19. (New) The process according to claim 14, wherein the α -hydroxycarboxylate ion is selected from the group consisting essentially of the anions of glycolic acid (hydroxyacetic acid), lactic acid, citric acid, 2-methyllactic acid (α -hydroxyisobutyric acid), 2-hydroxy-2-methylbutyric acid, 2-hydroxy-2-ethylbutyric acid, 2-hydroxy-3-methylbutyric acid, 2-hydroxycaproic acid, malic acid, tartaric acid, glucuronic acid, gluconic acid, citramalic acid, saccharic acid, ribonic acid, benzilic acid, quinic acid, mandelic acid, hexahydromandelic acid, 2-hydroxycaproic acid and 3-phenyllactic acid.

20. (New) The process according to Claim 14, wherein the trimerization catalyst is deactivated after the desired degree of trimerization has been attained.

21. (New) The process according to claim 14, wherein the trimerization catalyst is deactivated with dibutyl phosphate or di(2-ethylhexyl) phosphate.

22. (New) The process according to Claim 14, wherein the halogen-free hexamethylene diisocyanate has a total chlorine content of less than 100 ppm by weight.

23. (New) The process according to Claim 14, wherein the halogen-free hexamethylene diisocyanate is hexamethylene 1,6-diisocyanate.

24. (New) A polyurethane coating comprising a polyisocyanates prepared by the process of Claim 14.

25. (New) A polyisocyanate component in one- and two-component polyurethane systems for high-grade, weather-resistant polyurethane coatings and high-solids coatings comprising a polyisocyanates prepared by the process of Claim 14.